Development of a "sticky" virtual community on the Internet environment

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Abstract: This article presents an activity-based approach for teaching and learning applied to Higher Education. The objectives are twofold – first to utilise advances of Knowledge Management in education and second to teach the students in Virtual Communities as a powerful modern model for Knowledge Management. According to the classics [Rheingold, 2000] in this field a virtual community (also known from the literature as e-community or online community) is a group of people (presumably remotely distributed) that interact via some form of remote communications such as letters, telephone, email, or Internet rather than face to face. In modern network environment we can see also online communities where members are available simultaneously. With regard to the used media in online communities could be differentiated text, audio, visual and multimedia communities. The concept of 'sticky' virtual community refers to ones where repeated interactions (visits to websites as common place) require particular features in design to support and retain interest. Regular change in content, ability to use as a reference site, superior linkage to other resources, efficient design and many other factors play a part. Virtual and online communities have also become a dominant form of communication between people who are engaged with computer-based work. A computer-mediated community (CMC) uses specific software to regulate the social substance of this interaction. Essential socio-technical change could arise from the liaison of heterogeneous Internet-based social networks. Dealing with social context needs to consider, also, psychological and other factors outside of basic technical design.
Through the study of this activity, students will be trained to design, implement and develop virtual communities in a given area by using modern networking and communication tools and techniques.
The article presents major elements and discusses expected learning outcomes, proposed learning and teaching strategy and determines areas of study. The article also describes criteria for assessment potential employability. Compatibility with existing units, software and library requirements are considered, as well.

Keywords: Active Learning, Social Capital, Socio-technical Changes, Virtual Community.

1. Introduction

In order to meet the community Third Millennium challenges in Higher Education an advanced activity-based strategy for teaching and learning is in a process of development and implementation in Southampton Solent University. Activity based strategy for learning and teaching is understood to be a strategy based on the concept for Active Learning widely discussed in the literature [Robinson and Udall, 2003][Udall and Wright, 2005].
This form of education, aims to employ students' efforts, to optimise teaching and to maximise learning effectiveness and outcomes. It is enriched with novel subjects and topics from the area of Knowledge Management, essential for the sustained development of community in Information Era. In particular case the subject is Virtual Community [Rheingold, 2000]. The aim of this article is to state the elements of the teaching as a set of activities, which will stimulate the students to build comprehensive knowledge, to develop sufficient understanding and to gain practical skills in the area of Virtual Communities.

2. Social Issues

Virtual Communities can be classified as a social phenomenon. Therefore a range of social issues should be considered for inclusion in the process of teaching and learning of the subject such as – determination of the Virtual Communities as a Social Capital, heterogeneity of the Virtual Communities in contrast to real communities and interaction of human and social capitals in virtual environment.

2.1. Virtual Community as a Social Capital

Building knowledge and understanding for Virtual Communities as form of Social Capital is proposed as element of the teaching and learning process. According to the literature "Social Capital is one of the most popular, as well as of the most contested, terms in contemporary social science. At the most general level, it refers to the quality and quantity of social connections, as captured in the popular aphorism "It's not what you know, it's who you know." [Michael W., 2003] In this context the attempts

of corporate Internet sites, entertainment sites, and online services to move away from the static presentation of information to interactive communities, involving the members of the community in ongoing public dialog deserves attention [Levitt, et al., 1999]. Virtual Community can be described, also, as an advanced resource for development of social capital. “In the contemporary academic literature, social capital is discussed in two related (but clearly different) ways. The first, primarily associated with sociologists, refers to the resources (e.g., information, ideas, support) that individuals are able to procure by virtue of their relationships with other people. These resources could be considered as a social capital in that they are accessible only in and through these relationships”. [Michael W., 2003][Lin et al., 2001][Cohen et al., 2001]

The second approach to social capital, which could be defined as political, refers to the nature and extent of involvement in informal and formal organisations. “From chatting with neighbours and hosting card nights to joining environmental organisations and political parties, social capital in this sense is used as a conceptual term to characterise the many and varied ways in which a community's members interact.” [Putnam, 2000]

“A range of social problems - crime, health, poverty, unemployment have been linked empirically to a community's endowment of social capital (or lack thereof), and with them a concern among citizens and policymakers alike that new forms of social capital must be constructed, ones appropriate to the technological and demographic realities of the twenty-first-century information economy.” [Michael W., 2003].

In this sense, amongst the professionals, so called Communities of Practice could be considered as a highly successful form of social capital [Lesser and Prusak, 1999][Wenger et al., 2002][Wenger and Snyder, 2000].

Virtual Community, Communities of Practice and other novel form of association based on modern communications technologies offers a vide potential for constructing new forms of social capital. Therefore incorporation of this subject in new courses could be considered as challenge for Higher Education.

2.2. Virtual Communities in heterogeneous social environment

An essential peculiarity of the Internet as an environment for plant and grow Virtual Communities is the heterogeneity of the players in terms of culture, wealthy, education, ethnicity, age and many other factors. Combined with remote distribution of the members and relative uncertainty and anonymity it causes constraints and limitations, which are difficult to overcome. In the real environment heterogeneity is protected by implicit barriers and natural interactions, which define the identity and the status of individuals and groups. In the virtual environment these barriers are diluted and individuals and groups with diverse status could appear and interact in same community. To the extent that does not require clarification of the status, communications and interactions could be possible. However above this extent variation and diversity of status could cause negative effects amongst which, perhaps, the most essential is the lost of trust.

For example in real communities it could be observed that the absence or scarcity of a given resource to accomplish something important lead to substitution of the resources with these that are available. Across cultures and throughout history, various concepts refer to this kind of pragmatic substitution. “Social capital may complement rather than substitute for other kind of capital and the degree to which this is true may depend on the wealth of the community. Poor and wealthy communities turn out to differ in terms of the access they afford their members to social capital. Social capital is employed in both poor and wealthy communities alike both for task-oriented purposes and for emotional or expressive purposes such as confiding and socialising. Also, there are various practical and conceptual puzzles in the relationship between social capital and economic development, especially when the latter includes the explicit aim of reducing poverty and inequality.“ [De Souza Briggs, 2003] These aspects of heterogeneity must be explicitly addressed in the teaching of potential designers, administrators, moderators and facilitators of Virtual Communities.

“Chronic poverty strains trust, at least in some settings. Surrounded by chronically needy people, especially where deception and theft are common and where a high degree of population turnover exists (creating anonymity among neighbours), some of the poor become wary and guarded. Note that these patterns are not merely a function of one's own material poverty but also of the poverty of many of one's neighbours. That is, they are a function of the concentration of poverty in an area.” [De Souza Briggs, 2003] Therefore for successful development and maintenance, administrators and facilitators of Virtual Communities requires a comprehensive knowledge and understanding of these issues of social heterogeneity. Implementation of teaching and learning of this matter will integrate in-class seminars together with independent research and empirical investigation of particular cases.

2.3. Interaction of Social and Human Capitals in virtual environment

Considering literature sources identified for successful development of Virtual Communities, knowledge and understanding on interaction of Social and Human Capitals is required. “In economic, capital refers to resources (whether financial or physical) that are used for the production of goods. It can also refer to all resources that bring in income. Social Capital and Human Capital are terms used in the social science to discuss analogous concepts with regard to social resources derived from social interaction (social capital) individual development (human capital).“ [Gamarnicow, 2003]

For Higher Education in general and for development of activity based teaching end learning in particular a comprehensive understanding of human capital is essential. “There are at least four ways of thinking about human capital. For economists, human capital has a specific, narrow meaning: It refers to the opportunity cost of individuals' or states' investing in education-forgone earnings plus the cost of education set against expectations of future (higher) earnings and economic productivity, respectively. At the other extreme, the term human capital is often as used merely as popular shorthand for education in general.“ [Gamarnicow, 2003]

The classical statement of the argument that social capital contributes to human capital is justified in the literature. [Coleman,1988]. “The social capital inherent in parent - child relations and in the strong family-school-community links among those who sent their children to parochial schools as conducive to better educational outcomes.“ [Gamarnicow, 2003]

In virtual environment relation social – human capital has other dimensions. It could be very productive and beneficial to access remote resources which could be unavailable in local neighbour environment, but in some cases could lead to negative outcomes. A special attention requires for example in child – home computer interaction when the child could perceive and trust the home computer and interaction with it as interaction with parents. This case must be explicitly addressed, to teach potential designers and facilitators of Virtual Community in a sense to prevent unauthorised access and influence on youths.

3. Technical issues

Besides the social issues for successful development of Virtual Communities, knowledge and skills in organisation and technology is compulsory. Therefore teaching and learning of practical skill for organisation and facilitation of Virtual Communities together with technologies necessary for their implementation are considered for inclusion.

3.1. Building Virtual Communities

The attempt to increase the traffic to the web sites motivates the site owners to use many tactics to attract the audience and to maintain permanent interests of the visitors. This could be classified as a major reason of site owners to develop and facilitates in their sites Virtual Communities. Advantages of online communities are stated in many publications such as: “Online communities can provide some of the most compelling reasons for visitors to return to a site. First, the user has direct involvement in the site because he or she is providing a portion of the content. In addition, the user may become involved in an ongoing dialog or discussion with other users and will want to return to view others' comments and to respond.” [Levitt et al., 1999]. Successful building of online communities requires knowledge and understanding of types of Virtual Communities. Perhaps the most popular types could be determined in two general groups namely - social, conversational communities and communities of practice. The conversational communities could be related more with entertainment and communities of practice with professional interest accordingly. Therefore subjects such as Network management, Network Implementation, Web Design, and Web Site Design are proposed in the teaching and learning process.

3.2. Role of the Moderator and Facilitator in Development and Maintaining Virtual Communities

A prime role in development of text based online communities plays a person, (several persons could be as well) responsible for organising conversation with the members of the community. In the literature the role of this person is called moderator or facilitator. In the literature could be seen variation of the interpretation of these terms. The moderator is subject to earlier publications and it could be understood more as leader. [Levitt, et al., 1999] The facilitator is subject of latest publication and it could be interpreted more likely as guide. [White, 2004] (In this article we will use both terms)

The importance of this person for the successful development of the Virtual Community, attraction of new members, retaining current members and enhancement of the volume of visits to the web site is essential. In order to gain the competition for users’ attention with other web domains the moderator has to satisfy a range of criteria and requirement. [Levitt, et al., 1999]

Therefore one of the aims of this activity is to develop in the learners required knowledge, understanding and practical skills. With the invasion of modern audio – visual technologies in online communications the role of the person involved in organisation of the community interactions very likely could evolve to facilitator rather than moderator in the sense on these terms used in the literature [Levitt, et al., 1999][White, 2004]. To meet the potential requirements for skilled facilitators in the near future, this activity aims to develop learners' practical skills and knowledge on audio – visual tools and technologies for online communications.

3.3. Computer System – the host of the Virtual Community

A core element in hosting and maintenance of web sites and in particular in hosting Virtual Communities is Computer System. Learners who study development of virtual communities should build sufficient knowledge, understanding and skills on Computer as Server. This includes major Server's elements and their role for optimal performance; requirements to Computer Server as host of Virtual Community; Servers classifications and models. Abilities to analyse particular needs and to select appropriate configuration in terms of initial investment, scalability, reliability, availability and security of the Server are compulsory for a business success in development of Virtual Communities. Therefore this subject is proposed in the teaching and learning process.

4. Active learning and teaching

The teaching approach, as it was mentioned above, is based on the concept for Active Learning [Udall and Wright, 2005]. It consists of separate sections. Each section starts with seminar where a number of academics and experts introduce the above mentioned social and technical issues. The seminars should be adequately presented and distributed across the teaching period. After the seminar the section includes definition of certain tasks to the learners. For successful completion of the task the student should be encouraged to do research, independent investigation and to attend lectures in relevant available units. One of the specific characteristics of this approach can be described as simultaneous students multilevel. This characteristic requires determination of the expected outcomes and criteria for assessment for each particular level.

4.1. Learning Outcomes

Expected learning outcomes are determined for three levels student. On successful completion of this activity students are expected to be able to:

For Level 1

Knowledge and Understanding

- create understanding and initial knowledge on networking, communication, Virtual Communities (VC), tools for development, psychological and social aspects.

Cognitive skills

- apply networking for communication and exchange of information with remotely distributed correspondents. Analyse available models of virtual communities.

Practical and Professional skills

- describe existing models of Virtual Communities. Compare their functionality and effectiveness. Design and implement own Virtual Community.

Transferable and Key skills

- communicate at professional level on a technical topic.

For Level 2

Knowledge and Understanding

- create understanding on networking, on- & offline information exchange and psychological and social aspects of the concept for 'sticky' Virtual Community.

Cognitive skills

- select and apply techniques for creation of various Virtual Community models. Analyse the resource requirements for a specific application.

Practical and Professional skills

- explain various models of existing Virtual Communities. Explain activities in design of Virtual Communities, select and proposition of effective solutions for particular area of interest.

Transferable and Key skills

- abilities to develop and perform individual presentation.

For Level 3

Knowledge and Understanding

- create appropriate cognition on networking and communication. Develop consistent understanding on Virtual Communities, tools for development and abilities to utilise and manage group knowledge, psychological and social dynamics in a web environment.

Cognitive skills

- apply modern tools and techniques for creation, maintenance and sustained development of models of virtual communities. Analyse the resource requirements for a specific application.

Practical and Professional skills

- describe, explain and evaluate these models and compare their functionality and effectiveness to other already existing virtual communities. Plan and monitor activities in design a virtual communities, selection and proposition of effective solutions for purpose.

Transferable and Key skills

- develop and perform an oral presentation.
- develop and write technical reports to a professional standard.

4.2. Learning and Teaching Strategy

An integration of learning and teaching methods involving seminars, small group tutorial sessions and practical exercises will be used as manners of providing comprehensive understanding advanced concepts, techniques and tools that are involved in the activity.

Seminars

- Supervised seminars are designed to introduce students with comprehensive knowledge required for this activity. The focus is on various tools, methods and different technologies. In addition, tutorials will be used as an opportunity to discuss relevant issues.

Practical tutorials

- Case studies will be used with specific tools to give students experience in applying learned techniques to practical examples developing a range of practical skills. Tasks are assigned to the students with advised how to complete it and then time is given to practice.

Group work

- Students will be expected to research various models of Virtual Communities and Communities of Practice. They will have the opportunity to design, implement and compare particular models by utilisation of appropriate tools and techniques.

Individual work

- Students will be encouraged to practice, investigate and analyse essential for Virtual Communities issues. They will have the opportunity to design, implement, develop, moderate, facilitate, maintain and administrate relevant paradigms.

The pedagogical approach is primarily activity based. Our objective is to develop practical skills in the context of theory and best practice. The linkage is developed through the seminar and group work element, and demonstrated and reflected upon though the individual work and assessment vehicles.
The close blend of theory and practice, characteristic of Southampton Solent University's curriculum approach, is developed particularly through the practical tutorials, where the student get the opportunity to see the implications of various approaches demonstrated through their own work. This bridges the cognitive skills development gap through incremental assimilation and embedded genuine understanding of the professional implications of the adoption of the various approaches. Although role differentiation (administrator, content developer, etc.) is not practiced, the necessary awareness will emerge from the acquired skills base.

4.3. Assessment

Following the model for simultaneous multilevel tuition of the students in this activity, the assessment criteria are determined, also, for three levels of students. Individual and group assessments are arranged according to the different levels of skills and knowledge.
For Level one the proposed assessment types are Test and Group presentation. The objective of this activity is to identify students' abilities and their understanding – performed in the computer class where the students are expected to perform a given task, which would indicate their understanding of elements covered in lectures/seminars and a test is taken by the end of the year.
For Level two the proposed assessment type is Individual Presentation. Students will work individually on applying technique. Individual assessments focus on the student's vocabulary in the field and on the ability to discus with audience this matter. Students will be required to submit a copy of the presentation with handouts to support oral delivery. The presentation will encourage the students to develop their oral communication and writing skills.

For Level three the proposed assessment type is Project Report. This activity aims to identify students' ability to implement and evaluate a problem. The student will be expected to research on relevant methodology and to implement Virtual Community models utilising modern effective tools, students will, also, have the opportunity to present oral and in writing their work. Students will be required to submit a written report in the end of the term.

4.4. Employability

In order to facilitate utilisation of the obtained knowledge the students will be trained to identify potential employers and promising niches for establishment of own business. The students will develop confidence in the value of their knowledge and abilities to apply it in practice.

4.5. Complement with existing units

One of the aims of the proposed model of teaching and learning is to encourage the students for participation in and attendance of other units available in the University. Currently existing units, which can support this activity, are Network Management, Network Implementation, Web Design, Web Site Design, and Computer Systems.

5. Conclusion

In summary the approach presented in this article for activity based teaching and learning demonstrates how exciting Southampton Solent University knowledge assets, in terms of units and academics expertise, can be, organised in order to deliver diversification of the portfolio of courses and to meet the requirements to the Higher Education for extensive development of social and human capital. The contribution of this work is twofold. First, it enriches theoretical discussion on advanced relations between social and technological issues in modern community. Second, it contributes to the Higher Education practice by development of novel courses.

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